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**SINGLE-SHOT VACCINE FORMULATION**

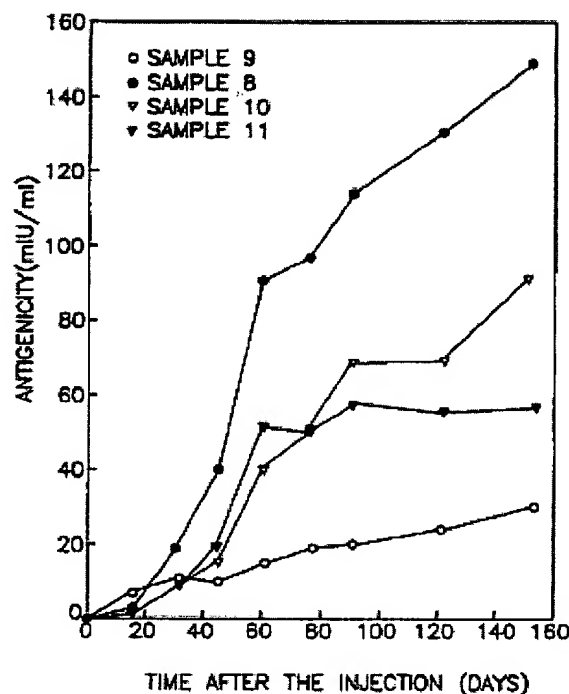
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**Applicant:** LG CHEM LTD  
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EP0737472 (A1)  
US5753234 (A1)**Abstract of JP8253426**

**PROBLEM TO BE SOLVED:** To obtain an encapsulated microparticle capable of preventing an antigen from being brought into contact with an organic solvent, etc., in an encapsulating process and preventing the antigenicity from disappearing or reducing by successively coating the antigen with a water-soluble substance and a hydrophobic biodegradable polymer.

**SOLUTION:** This microparticle is obtained by primarily coating a single or a mixed antigen with a water-soluble substance (preferably CMC, etc.), providing a core particle and then secondarily coating the resultant particle with a hydrophobic biodegradable polymer (preferably a copolymer of a glycolide with a lactide) and has 0.5-300  $\mu\text{m}$  particle diameter. The core particle is preferably prepared by dissolving the antigen and the water-soluble substance in an amount of 5-15 times based on the antigen in distilled water or a buffer solution and then drying the resultant solution according to a spray-drying or a freeze-drying method. The secondary coating is preferably carried out by dispersing the core particle in a solution prepared by dissolving the biodegradable polymer in an amount of 5-30 pts.wt. based on the core particle in an organic solvent and subsequently spray drying the obtained solution. The size of the core particle is preferably 0.5-20  $\mu\text{m}$ .

**FIG. 1**

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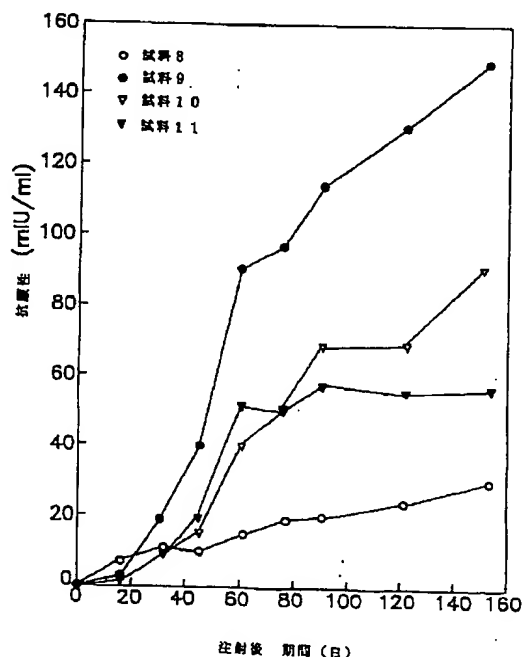
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(54) 【発明の名称】 単一注射ワクチン剤形

## (57) 【要約】

【課題】 本発明の目的は抗原を生分解性高分子でカプセル化する過程で抗原が有機溶媒および生分解性高分子と直接的に接触することを防止し、これらの相互作用に起因する抗原性の消滅または減少を防ぐように抗原が高分子内にカプセル化された微細粒子、およびこれを含む、一回の注射で免疫を完成させ得る単一注射ワクチン剤形を提供することである。

【解決手段】 本発明は上記の目的を達成するために、単一または混合抗原を水溶性物質で一次コーティングして製造されるコア粒子を疎水性の生分解性高分子で二次コーティングして製造されることを特徴とする粒径0.5-300 μmの微細粒子、およびこれを注射剤溶媒に分散させ製造された単一注射ワクチン剤形を提供される。



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SINGLE-SHOT VACCINE FORMULATION POUR VACCIN ADMINISTRE EN UNE  
SEULE FOIS (English; French)

Patent Assignee: LG CHEMICAL LTD (KR)

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(KR); KIM MYUNG-JIN (KR); KIM SOO-HYEON (KR)

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US 5753234	A	19980519	US 613830	A	19960311	
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KIM SOO-HYEON

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### (54) SINGLE-SHOT VACCINE FORMULATION

(57)Abstract:

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